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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,548	07/25/2003	Yasuhiko Aoki	064731.0339	3535

5073 7590 03/01/2007
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EXAMINER

LEUNG, CHRISTINA Y

ART UNIT	PAPER NUMBER
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2613

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	03/01/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/01/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/627,548

Applicant(s)

AOKI ET AL.

Examiner

Christina Y. Leung

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-9,11 and 13-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-9,11 and 13-19 is/are rejected.
- 7) ☒ Claim(s) 1,7,11 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 1, 7, 11, and 17 are objected to because of the following informalities:

In claims 1 and 11, the semi-colon (“;”) after the word “comprising” in line 2 of each claim should be replaced with a colon (“:”) for grammatical reasons.

Claim 7 recites “a second number of switches” and “a second number wavelengths” [sic] in lines 2 and 3 of the claim. Examiner respectfully notes that the word “second” may be removed from these phrases in the claim since the claim, which depends on claims 1 and 5, does not previously recite a “first” number of wavelengths or switches. Also, the word “of” should be inserted between “number” and “wavelengths” in lines 2 and 3 of the claim for grammatical reasons.

Similarly, claim 17 recites “a second number wavelengths” [sic] and “a second number of switches” in lines 2 and 3 of the claim. Examiner respectfully notes that the word “second” may be removed from these phrases in the claim since the claim, which depends on claims 11 and 15, does not previously recite a “first” number of wavelengths or switches. Also, the word “of” should be inserted between “number” and “wavelengths” in line 2 of the claim for grammatical reasons.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3-5, 7-9, 11, 13-15, and 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Arecco et al. (US 7,072,580 B2).

Regarding claims 1 and 11, Arecco et al. disclose a system for communicating optical traffic between ring networks (Figures 16 and 21-24), comprising:

a first optical ring network and a second optical ring network ("Network 1" and "Network 2" shown in Figures 21-24), each optical ring network operable to communicate optical traffic comprising a plurality of wavelengths;

a first ring interconnect (RIC) node (nodes D and D', which each comprise a plurality of elements as shown in Figure 16) and a second RIC node (nodes E and E', which also each comprise a plurality of elements as shown in Figure 16), each RIC node coupled to the first and second optical ring networks (column 26, lines 37-58);

the first RIC node D and D' operable to communicate optical traffic between the first and second optical ring networks;

the second RIC node E and E' comprising a rejection block operable to detect traffic of one or more wavelengths to determine when the first RIC node is unable to communicate optical traffic between the first and second optical ring networks (switch 215 in nodes E and E' is operable to detect a failure in the first RIC node; Figures 16-18; column 23, lines 26-33; column 25, lines 8-30; column 28, lines 61-67; column 29, lines 1-3); and

the second RIC node E and E' operable to communicate optical traffic between the first and second optical ring networks when the first RIC node is unable to communicate optical

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traffic between the first and second optical ring networks (Figure 23; column 28, lines 61-67; column 29, lines 1-47).

Examiner respectfully notes that Arecco et al. disclose that the second RIC node (comprising nodes E and E') includes "a rejection block" element in the sense that the second RIC node includes receiving elements such as shown in Figure 16 that detect failures (column 23, lines 26-33; column 25, lines 8-30) and is therefore "operable to detect traffic of one or more wavelengths to determine when the first RIC node is unable to communicate optical traffic between the first and second optical ring networks." Arecco et al. also disclose that the second RIC node includes switch elements which are operable to reject/block signals in certain directions within the node depending on the desired direction of traffic in the network. However, Examiner respectfully notes that the claims do not specifically recite an element operable to perform steps of "rejecting" or "blocking"; the claims only recite that the rejection block is "operable to detect traffic of one or more wavelengths...."

Regarding claims 3 and 13, Arecco et al. disclose that the first RIC node (i.e., nodes D and D') is operable to:

receive optical traffic from the first optical ring network (i.e., "Network 1" shown in Figures 21 and 22);

passively pass through a first copy of the optical traffic along the first optical ring;

drop a second copy of the optical traffic;

select one or more wavelengths of the dropped optical traffic (column 26, lines 59-67; column 27, lines 1-3); and

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communicate the one or more wavelengths to the second optical ring network (column 27, lines 4-67; column 28, lines 1-13).

Figure 21 shows how a first copy of S1 is passed along a ring (in this case, "Network 1") while a second copy is dropped to the other ring ("Network 2") and similarly, a first copy of S2 is also passed along a ring ("Network 2") while a second copy is dropped to the other ring ("Network 1").

Regarding claims 4 and 14, Arecco et al. disclose that the second RIC node (i.e., nodes E and E') is operable to:

determine when the first RIC node is unable to communicate optical traffic between the first and second optical ring networks (column 23, lines 26-33; column 25, lines 8-30);

receive the first copy of the optical traffic from the first RIC node (i.e., nodes D and D');

passively pass through a third copy of the optical traffic along the first optical ring;

drop a fourth copy of the optical traffic;

select one or more wavelengths of the dropped optical traffic; and

communicate the one or more wavelengths to the second optical ring network when the first RIC node is unable to communicate optical traffic between the first and second optical ring networks (Figures 22-24; column 27, lines 58-67; column 28, lines 1-67; column 29, lines 1-67; column 30, lines 1-39).

Regarding claims 5 and 15, Arecco et al. disclose that the first and second RIC nodes each comprise a wavelength select unit (switch unit 215) operable to select one or more wavelengths of optical traffic for communication between the first and second optical ring networks (Figure 16; column 24, lines 21-53; column 26, lines 37-67; column 27, lines 1-3).

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Regarding claims 7 and 17, as well as the claims may be understood with respect to the claim objection discussed above, Arecco et al. disclose that at least one wavelength select unit comprises a number of switches 232 for selectively forwarding a number wavelengths of optical traffic for communication between the first and second optical ring networks (Figure 16; column 24, lines 21-53; column 26, lines 37-67; column 27, lines 1-3).

Regarding claims 8 and 18, Arecco et al. disclose that the second RIC node (i.e., nodes E and E') is operable to communicate optical traffic between the first and second optical ring networks when the first RIC node is unable to perform such communication due to a failure of the first RIC node (Figures 23 and 24; column 28, lines 61-67; column 29, lines 1-67; column 30, lines 1-39).

Regarding claims 9 and 19, Arecco et al. disclose that the second RIC node (i.e., nodes E and E') is operable to communicate optical traffic between the first and second optical ring networks when the first RIC node is unable to perform such communication due to a fiber cut to the first optical ring network (Figure 22; column 27, lines 58-67; column 28, lines 1-60).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arecco et al. in view of Fevrier et al. (US 5,612,805 A).

Regarding claims 6 and 16, Arecco et al. disclose a system and method as discussed above with regard to claims 1 and 5 and claims 11 and 15 above, including wavelength select units. Arecco et al. do not specifically disclose that at least one wavelength select unit comprises a tunable filter array comprising a first number of tunable filters.

However, Fevrier et al. teach a system that is related to the one disclosed by Arecco et al. including adding and dropping signals in a ring network (Figures 5 and 6; column 9, lines 57-67; column 10, lines 1-7). Fevrier et al. further teach nodes including wavelength select units, wherein a wavelength select unit comprises a tunable filter array comprising a first number of tunable filters $F_{1...n}^T$ (Figure 5; column 8, lines 56-67; column 9, lines 1-26).

Regarding claims 6 and 16, it would have been obvious to a person of ordinary skill in the art include a tunable filter array comprising a first number of tunable filters as taught by Fevrier et al. in the system and method disclosed by Arecco et al. in order to advantageously be able to reconfigure the desired wavelengths using tunable filters and thereby more flexibly redirect channels in the network in the event of failure (Fevrier et al, column 2, lines 2-17 and lines 57-67). One in the art would have been particularly motivated to use tunable filters as taught by Fevrier et al. in the system and method disclosed by Arecco et al. since the system disclosed by Arecco et al. is already directed to protecting against network failures by redirecting traffic.

Response to Arguments

6. Applicant's arguments filed 20 December 2006 have been fully considered but they are not persuasive.

Examiner respectfully disagrees with Applicant's assertion on pages 7-8 of the response that Arecco et al. do not disclose that the second RIC node comprises a rejection block operable to detect traffic as recited in the claims. Examiner respectfully notes that Arecco et al. disclose that the second RIC node (comprising nodes E and E') includes "a rejection block" element in the sense that the second RIC node includes receiving elements such as shown in Figure 16 that detect failures (column 23, lines 26-33; column 25, lines 8-30) and is therefore "operable to detect traffic of one or more wavelengths to determine when the first RIC node is unable to communicate optical traffic between the first and second optical ring networks."

Although the claims do not specifically recite an element operable to perform steps of "rejecting" or "blocking," Examiner respectfully notes that Arecco et al. also disclose that the second RIC node further includes switch elements which are operable to reject/block signals in certain directions within the node depending on the desired direction of traffic in the network (wherein the desired traffic directions and corresponding switching are determined based on the traffic failures detected by the receiving elements as noted above). However, Examiner respectfully notes that the claims only recite that the rejection block is "operable to detect traffic of one or more wavelengths...."

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 571-272-3023.

The examiner can normally be reached on Monday to Friday, 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


CHRISTINA LEUNG
PRIMARY EXAMINER